AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of screening for a candidate bacterial nucleic acid sequence that encodes a target polypeptide for a single-gene lysis polypeptide comprising:

contacting bacteria with a lysis polypeptide, whercin the lysis polypeptide is A_2 polypeptide;

selecting for bacterial survivors of cell lysis caused by the lysis polypeptide that survive lysis by having a candidate bacterial nucleic acid sequence that encodes a target polypeptide making cells resistant to lysis by the lysis polypeptide; and

mapping the candidate bacterial nucleic acid sequence, wherein the mapped sequence corresponds to the nucleic acid sequence which encodes the target polypeptide.

2. (Original) The method of claim 1, wherein contacting the bacteria with the lysis polypeptide comprises transforming bacteria with a vector comprising a nucleic acid sequence that encodes a single-gene lysis polypeptide.

3. (Original) The method of claim 2, wherein contacting comprises inducing the expression of the lysis polypeptide.

4. (Original) The method of claim 1, wherein the lysis polypeptide is mutated.

5. (Original) The method of claim 1, further comprising isolating the mapped bacterial nucleic acid sequence.

6. (Original) The method of claim 5, further comprising determining the characteristics of the isolated bacterial nucleic acid sequence.

7. (Original) The method of claim 6, wherein determining the characteristics of the bacterial nucleic acid sequence comprises gel electrophoresis or nucleic acid sequence analysis.

8. (Original) The method of claim 1, further comprising inserting the mapped bacterial nucleic acid sequence in an expression vector to produce a polypeptide.

9. (Original) The method of claim 8, further comprising isolating the polypeptide.

10. (Original) The method of claim 9, further comprising determining the characteristics of the polypeptide.

11. (Original) The method of claim 10, wherein determining the characteristics comprises electrophoresis, spectrophotometric analysis, amino acid analysis, structural analysis or analysis of biochemical functions.

12. (Previously amended) The method of claim 1, wherein the bacteria comprise a vector comprising a nucleic acid sequence encoding a polypeptide involved in cell wall synthesis.

Claims 13-50 (Canceled)

51. (Currently amended) The method of claim 1, wherein the bacterial nucleic acid sequence that encodes the target polypeptide is ~~*mraY*~~ or *murA*.

52. (Canceled)